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Review of subspecific structure
of *Dorcadion* (s. str.) *glycyrrhizae* (Pallas, 1771)
(Coleoptera, Cerambycidae)



DORCADION ABAKUMOV I

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Review of subspecific structure of *Dorcadion* (s. str.) *glycyrrhizae* (Pallas, 1771) (Coleoptera, Cerambycidae)

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Summary

Dorcadion glycyrrhizae (Pallas, 1771) is regarded as a polymorphic species consisting of 12 subspecies : *D. g. glycyrrhizae* (Pall.), *D. g. inderiense* Suv., *D. g. striatum* (Goeze), *D. g. dubianskii* Jak., *D. g. uvarovi* Suv., *D. g. androsovi* Suv., *D. g. obtusipenne* Motsch., *D. g. dostojewskii* Suv., *D. g. fedorenkoi* ssp. n., *D. g. nikireevi* subsp. n., *D. g. tobolense* ssp. n., *D. g. turgaicum* (Suv.), stat.n., *D. g. galinae* ssp. n., delimited in four groups. The status of *D. iliense* Plav. as separate taxon is regarded as doubtful. Lectotype is designated for *D. obtusipenne* Motschulsky, 1860. Morphological diagnosis, distinguishing characters and geographical distribution are given for each taxon.

Résumé

Dorcadion glycyrrhizae (Pallas, 1771) est considéré comme une espèce polymorphique composée de 12 sous-espèces : *D. g. glycyrrhizae* (Pall.), *D. g. inderiense* Suv., *D. g. striatum* (Goeze), *D. g. dubianskii* Jak., *D. g. uvarovi* Suv., *D. g. androsovi* Suv., *D. g. obtusipenne* Motsch., *D. g. dostojewskii* Suv., *D. g. fedorenkoi* ssp. n., *D. g. nikireevi* subsp. n., *D. g. tobolense* ssp. n., *D. g. turgaicum* (Suv.), stat.n., *D. g. galinae* ssp. n., délimitées en quatre groupes. Le statut de *D. iliense* Plav. comme taxon distinct est considéré comme douteux. Un lectotype est désigné pour *D. obtusipenne* Motschulsky, 1860. Les diagnoses morphologiques, les caractères de détermination et les aires de répartitions sont donnés pour tous les taxons.

Key words

Coleoptera, Cerambycidae, *Dorcadion*, new subspecies, taxonomy, Russia, Kazakhstan.

Introduction

I accept here the traditional (Plavilstshikov, 1958; Breuning, 1962) conception of the nominative form of *Dorcadion glycyrrhizae* (Pallas, 1774), which attributes to the taxon relatively big narrow beetles distributed between Ural and Volga rivers.

The original description declared type locality as the area « inter Iaicum et Irтин ». Iaic is the old name of Ural River. Irтин, sensu P.S. Pallas, is Irtysh river. According to the author's description of the travel (Pallas, 1774: 494) *Cerambyx glycyrrhizae* (sic!) was observed on the bank of Irtysh River near « Vortposten Gratscheffskoi » - now Gratchi near Kurtchatov just on the borderline between Pavlodar and Semipalatinsk regions of Kazakhstan. Only one *Dorcadion* species is distributed here - it is *Dorcadion politum* Dalman, 1823, which does not fit to the original description with the picture published later (Pallas, 1781 : tab. f, fig. 7). Moreover, among numerous forms of *D. glycyrrhizae* distributed eastwards of Ural River, none can include the specimen figured for the original description (with totally red legs, red antennae and wide dorsal white elytral stripes). Such specimens are distributed only between Volga and Ural rivers in Ryn Sands. So the original designation of the type area was wrong, and Ryn Sands are in fact the locality of the typical form, as it was generally accepted. A lot of materials from this area were also collected by P. S. Pallas. In fact P.S. Pallas regarded several *Dorcadion* species as one, that was rather common for old authors, but for the description of his *D. glycyrrhizae* he figured the specimen from Ryn Sands.

Many other taxa, described later, from the territory of modern Republic of Kazakhstan and close to *D. glycyrrhizae* sensu stricto are usually connected with nominative form by transitional populations and are always allopatric, so I treat all of them as subspecies. I. A. Kostin (1973) reflected such a taxonomical situation by regarding the names of several geographically determined taxa as synonymy.

The numerous subspecies of *D. glycyrrhizae* can be delimited in 4 subspecies groups : « *D. glycyrrhizae*-group » consists of two subspecies (*D. glycyrrhizae*, *D. g. inderiense*) with moderately wide pronotal and humeral elytral stripes; « *D. striatum*-group » consists of 4 subspecies (*D. g. striatum*, *D. g. dubianskii*, *D. g. uvarovi*, ? *D. g. iliense*, stat. n.) with narrow pronotal and humeral elytral stripes; « *D. androsovi*-group » consists of five subspecies (*D. g. androsovi*, *D. g. obtusipenne*, *D. g. fedorenkoi*, ssp. n., *D. g. dostojewskii*, *D. g. nikireevi*, ssp. n.) with very wide pronotal and humeral elytral stripes, but with mostly red legs; « *D. turgaicum*-group » consists of three subspecies (*D. g. turgaicum*, stat. n., *D. g. tobolense*, ssp. n., *D. g. galinae*, ssp. n.) with very wide pronotal and humeral elytral stripes, but with more or less darkened legs.

Dorcadion glycyrrhizae (Pallas, 1774)

Cerambyx glycyrrhizae Pallas, 1774: 723; 1781: tab. f, fig. 7.

Description - Body length in males: 15 - 26 mm, width: 5 - 8.8 mm; body length in females: 15-27 mm, width: 5.6-10.5 mm.

Body black, sometimes red or reddish. Antennae always without fine pubescence in males, in females fine antennal pubescence often present, sometimes well developed in autochromal specimens; sometimes 1st antennal joint always much longer than 3rd, often longer, than 2nd and 3rd combined; prothorax is often relatively bigger in small males, with long or short, acute lateral spines; pronotum more or less regularly convex, never strongly prominent posteriorly; elytra and pronotum totally covered with dense pubescence, external dorsal elytral stripe nearly always present, but nearly never complete, usually in form of a row of several white spots and strokes, or with numerous black spots; internal stripe nearly always absent, or very rarely present in form of several white spots mostly near elytral base; humeral and external dorsal carinae usually well developed with deep furrow in between, very rare nearly totally obliterated; humeral carinae always smooth, never dentate or with rough sculpture; internal dorsal carinae and dorsal furrows obliterated; basal joint of posterior tarsus longer than apical.

Distribution. - Russia: from about Balakovo in Saratov region southwards along Volga Valley to Caspian Sea, several localities seem to be situated on the west bank of Volga; eastwards to the south parts of Orenburg and Cheliabinsk regions. Kazakhstan: about whole territories of Uralsk, Aktiube (Aktiubinsk) and Kustanai regions, north and central part (including Mangyshlak Peninsula) of Atyrau (earlier Guriev) region, south-west part of Kokchetau region (Kalmak River, Ulu-Kul), west part of Astana (earlier Akmolinsk or Akmola, then Tzelinograd) region (Esil, Zharkol Lake near Arkalyk), north part of Kzyl-Orda region: northwards from the city along Syr-Daria River. The record from Almaty (Alma-Ata) region (Ili River Valley - very doubtful description of *D. iliense* Plav.) seems to be wrong.

Bionomy. - Nearly all populations are connected with sandy dunes or at least sandy soil.

Remarks. - *D. glycyrrhizae* is close to *D. pantherinum* Jakovlev, 1900, which also inhabits sandy soils or even dunes. The taxonomical situation in transitional zone (Kzyl-Orda environs) remain unclear. No transitional populations are known. *D. pantherinum* and all species of « *pantherinum*-group » have humeral carinae with very rough sculpture.

Sometimes *D. (Compsodorcadion) cephalotes* Jakovlev, 1890 can be similar to certain forms of *D. (s.str.) glycyrrhizae*. In *D. cephalotes* lateral thoracic spines are never long and acute; humeral carinae usually with very rough sculpture, but in some forms humeral carinae can be smooth. In south Urals, both taxa could be sympatric.

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D. glycyrrhizae glycyrrhizae (Pallas, 1771)

Cerambyx glycyrrhizae Pallas, 1771: 723; 1781: tab. f, fig. 7.

Dorcadion glycyrrhizae: Ganglbauer, 1884: 438, part.; Pic, 1898: 42, part.; Jakovlev, 1895: 284; 1906a: 36, 45, part.; Suvorov, 1911a: 281; Plavilstshikov, 1958: 344-346; Breuning, 1962: 202-205; Kostin, 1973: 215, part.; Lobanov & al., 1982: 264.

Dorcadion glycyrrhizae m. *intravittatum* Breuning, 1947: 164 (« steppe des Kirghises »).

Dorcadion glycyrrhizae m. *claretomentosum* Breuning, 1947: 164-165 (« Astrakhan »).

Dorcadion glycyrrhizae m. *nigrotomentosum* Breuning, 1947: 165 (« Astrakhan »).

Dorcadion glycyrrhizae glycyrrhizae: Danilevsky, 1999: 36, 38.

Description. - Body length in males: 18-23 mm, width: 6.3-7.8 mm; body length in females: 18-24.7 mm, width: 7.2-9.3 mm.

Body big, black; head black; antennae black with red or bicoloured basal joint; lateral thoracic spines moderately long or short, in males the distance between spine apices less than maximal elytral width; central thoracic longitudinal line moderately narrow; elytra elongate, slightly narrowed anteriorly, nearly not widened near middle, parallelsided; humeral white stripe moderately wide, never interrupted, usually without black (or dark) spots; external dorsal stripe well developed, wide, about as wide as interval between dorsal and humeral stripes, continuous or many times interrupted; internal stripes absent; legs red with black tarsi; females usually autochromal with brown or pale-brown ground pubescence.

Distribution. - South-West part of the species area to the west from Ural River. Russia: Astrakhan region eastwards Volga; I do not know specimens from Volgograd region, as well as from the west side of Volga River. All records from Saratov region and from Volgograd region most probably connected with *D. g. striatum*. According to E. V. Komarov (personal communication) *D. g. glycyrrhizae* occurs in Volgograd environs, if so, its populations here must be allopatric with the populations of *D. g. striatum*, which is rather common in the nearest east environs of Volgograd in Dzhanibek and Elton Lake environs. Kazakhstan: plane between Volga and Ural rivers, rather numerous in Ryn Sands near Urda; absent in Ural River Valley and eastwards the river. Ural River Valley to the north from about Chapaev is occupied by *D. g. striatum*; southwards from about Chapaev and eastwards from the south parts of the river *D. g. inderiense* is distributed. N.N. Plavilstshikov's (1958) records for Temir environs are connected with *D. g. uvarovi*. Populations from near Emba-City and Mugodzhary are not investigated well enough. Several specimens known from here can represent several local geographical forms.

Materials. - 10 males and 8 females, « Kirgizen Stepp, Khanskaia Stavka » (now Urda in Uralsk reg., Kazakhstan), Ryn Sands, 10-15.4.188?, Plustshevsky leg. (author's collection).

Remarks. - *D. g. glycyrrhizae* differs from *D. g. striatum* by wide pronotal and dorsal elytral white stripes, which are usually very narrow in *D. g. striatum*; the latter often has red frons or red head; 1st antennal joint very rarely distinctly (sometimes its apex slightly darkened) bicoloured, red or often several basal antennal joints

red, or sometimes antennae totally red; females in *D. g. striatum* are mostly androchromal. *D. g. glycyrrhizae* differs from *D. g. inderiense* by bigger, more elongated body; usually shorter thoracic spines; 1st antennal joint in typical *D. g. inderiense* often black, femora can be considerably darkened as well as tibiae apices.

***D. glycyrrhizae inderiense* Suvorov, 1911 (Fig. 1)**

Dorcadion inderiense Suvorov, 1911a : 69-70 (« Ufer des Indersk-Sees »); 1911b : 281; Pic, 1898 : 42, part.

Dorcadion inderiense var. *penichrus* Suvorov, 1911a : 70; Plavilstshikov, 1952 : 351-352 (as aberratio); Breuning, 1962 : 206 (as morpha).

Dorcadion dubianskii : Plavilstshikov, 1952 : 351-352, part.; Breuning, 1962 : 205-206, part.

Dorcadion dubianskii m. *suffuscum* Plavilstshikov, 1952 : 352; Breuning, 1962 : 206.

Dorcadion dubianskii ab. *inderiense* : Plavilstshikov, 1952 : 351-352; Breuning, 1962 : 206 (as morpha).

Dorcadion dubianskii m. *nigrofemorale* Breuning, 1962 : 206.

Dorcadion glycyrrhizae inderiense : Danilevsky, 1999 : 36, 38-39.

Description. - Body length in males : 15-21.5 mm, width : 5-7.8 mm; body length in females : 15-21.5 mm, width : 5.7-8.9 mm.

Body small, black; head black; antennae black with black or bicoloured basal joint, very rarely 1st joint red; lateral thoracic spines long and curved backwards, in males the distance between spine apices about equal to or a little more than maximal elytral width; central thoracic longitudinal line moderately narrow; elytra elongate, slightly narrowed anteriorly, usually slightly widened near middle, often nearly parallelsided; humeral white stripe moderately wide, never interrupted, often with small black (or dark) spots; external dorsal stripe relatively wide, about as wide as interval between dorsal and humeral stripes (or slightly narrower), usually many times interrupted or complete, sometimes nearly absent; internal dorsal stripe absent, or sometimes present as a row of very small pale spots; legs usually with more or less darkened femora, often anterior femora totally black, middle and posterior femora reddish basally; or all femora reddish with black distal parts; often tibiae also darkened distally; sometimes all femora and tibiae red, tarsi always black; females usually autochromal with brown or pale-brown ground pubescence.

Distribution. - Kazakhstan. According to the original description and labels of the type series, typical population occupies plane near Inder Lake (Ural River Valley in Atyrau region). I could not find here any traces of *Dorcadion* species during several visits to the locality in good seasons. I also attribute to the subspecies several populations from Uil River Valley (near Miialy and Uil) about 100-180 km eastwards Inder Lake (Atyrau and Aktiubinsk regions).

Materials. - 1 male, SYNTYPE, « Längs dem Ufer des Inders-Sees, Gebiet Uralsk » (Zoological Museum, Moscow); 1 female, Kazakhstan, Uralsk reg., Inder env., 2.6.1907, A. Borodin leg.; 9 males and 7 females, Kazakhstan, Atyrau region, about 25 km W. Miialy, 8.5.1992, M. Danilevsky leg.; 1 male, Miialy env., 9.5.1992, M. Danilevsky leg.; 1 male and 2 females, Aktiubinsk reg., Uil env. (80 km E. Miialy), 9.5.1992, M. Danilevsky leg. (author's collection).

Remarks. - The subspecies looks like small *D. g. glycyrrhizae*, though big specimens of *D. g. inderiense* are bigger than small *D. g. glycyrrhizae*; besides it differs by usually bicoloured or black 1st antennal joint and often darkened legs. *D. g. inderiense* differs from closely situated populations of « *D. g. striatum*-group » : *D. g. striatum* (northwards), *D. g. dubianskii* (north-eastwards), *D. g. uvarovi* (south-eastwards) by all characters of the nominative subspecies (wide pronotal and dorsal elytral white stripes, which are usually very narrow in subspecies of « *D. g. striatum*-group »; the latter often has red frons or red head; 1st antennal joint very rarely distinctly bicoloured, red or often several basal antennal joints red, or sometimes antennae totally red; females in *D. g. striatum* are mostly androchromal).

D. glycyrrhizae striatum (Goeze, 1777)

« Der streisigte Holzbock » Lepechin, 1775 : 198, pl. 10, fig. 8 (« Ural »).

Cerambyx striatus Goeze, 1777 : 464 (S. Urals).

Cerambyx fimbriatus Gmelin, 1790 : 1862 (S. Urals).

Dorcadion striatum : Breuning, 1962 : 210-211.

Dorcadion rufifrons Motschulsky, 1860a : 311 (« les steppes Kirguises d'Orenbourg »); Ganglbauer, 1884 : 439, part.; Jakovlev, 1895 : 284; 1906a : 36, 47; Pic, 1898 : 40; Plavilstshikov, 1958 : 354-356; Kraatz, 1878 : 21, part.; Lobanov & al., 1982 : 264.

Dorcadion striatum m. *rufifrons* : Breuning, 1962 : 210.

Dorcadion glycyrrhizae : Olivier, 1792 : 473; 1795 : 116, pl. 16, fig. 115 (« Sibérie »); Fischer von Waldheim, 1823-1824 : 239, pl. 50, fig. 1 (« Sibiria »), part.; Kostin, 1973 : 215, part.

Dorcadion glycyrrhizae var. *olivieri* Thomson, 1867 : 39.

Dorcadion olivieri : Kraatz, 1873 : 34; 1878 : 221, part.

Dorcadion rufifrons ab. *zhuravlevi* Plavilstshikov, 1924 : 229 (« circ. urb. Uralsk »).

Dorcadion rufifrons ab. *indorsalis* Plavilstshikov, 1924 : 229 (« circ. urb. Uralsk »).

Dorcadion rufifrons ab. *lividesaturatum* Plavilstshikov, 1924 : 229 (« circ. urb. Orenburg, circ. urb. Uralsk »).

Dorcadion striatum m. *humeropunctatum* Breuning E., 1947 : 165 (« Kisilskaja, Oural »); Breuning S., 1962 : 211.

Dorcadion striatum m. *dorsolatevittatum* Breuning E., 1947 : 165 (« Uralsk »); Breuning S., 1962 : 211.

Dorcadion uvarovi m. *pseuduvarovi* Breuning, 1962 : 207 (« Uralsk »).

Dorcadion glycyrrhizae rufifrons : Danilevsky, 1999 : 36, 38-39.

Description. - Body length in males : 15.8-22.5 mm, width : 5.6-7.6 mm; body length in females : 19-22.5 mm, width : 7.9-9.5 mm.

Body rather big or smaller in the east populations (Ural River Valley), usually black, but sometimes red or reddish; head black, or red, or red with black genae and vertex, or black with red frons and gular area, or black with red antennal tubercles; antennae black

with usually red 1st joint, or several basal joints red or antennae totally red, 1st joint sometimes in eastern populations (Ural River Valley, Aktiubinsk reg.) slightly darkened apically; lateral thoracic spines short or sometimes in eastern populations (Ural River Valley, Aktiube reg.) longer, in males the distance between spine apices usually less than maximal elytral width, or sometimes about equal to; central thoracic longitudinal white line very narrow, only in females can be wider; elytra relatively wide, usually oval, evenly rounded near middle, or often more narrowed posteriorly; humeral white stripe usually narrow, moderately wide or very narrow, sometimes interrupted or with numerous black spots; external dorsal stripe usually very narrow, often in form of several small white spots and strokes; always narrower than interval between dorsal and humeral stripes (only in females sometimes wider); internal stripe absent; humeral furrow and dorsal carinae are usually distinct just from elytral base; sometimes, specially in north populations humeral and dorsal carinae are less prominent, or nearly totally obliterated (Saratov reg., Krasnyi Kut); legs red with black tarsi, or often tarsi partly or totally red; females usually androchromal, autochromal females with brown ground pubescence are known only from eastern populations (Ural River Valley).

Distribution. - North-West part of the species area. In Russia, to the east from Volga River in Saratov and Volgograd regions and further eastwards. The species is not definitely known from the west side of Volga, excepting Volgograd environs. It was only once recorded from near Petrovsk on Medveditsa River in the north of Saratov region (Semenov, 1899a : 108). Saratov region : Pugachev, Krasnyi Kut; Volgograd region : Volgograd environs, Elton Lake environs; Orenburg region (Ranee near Ilek, Pokrovka near Orenburg, Orenburg, Orsk); Cheliabinsk region (Arkaim Nat. Reserve in Bredy distr.). Kazakhstan : Uralsk region from Dzhanybek to Ural River, Ural River Valley to the north from about Chapaev, Uralsk environs, Ianvartzevo, Bykovka, Algabas near Sholkar Lake; Aktiubinsk region, north-west part (near Kalinovka).

Materials. - 1 male, Saratov reg., Krasnyi Kut; 7 males and 9 females, Volgograd reg., Elton Lake, 5.1994, Nuratbaev *leg.*; 1 male, Orenburg, 28.4.1963; 1 male, Orenburg reg., Orsk, 3.5.1953; 2 males, Orenburg reg., Ranee near Ilek, 30.5.1996, M. Danilevsky *leg.*; 1 male, 20 km S Pokrovka near Orenburg, 4.6.1998, V. N. Olshvang *leg.*; 1 male and 1 female, Cheliabinsk reg., Bredy distr., Arkaim Nat. Reserve, 8.6.1995 and 8.6.1999, A. Ivanov and Yu. Mikhailov *leg.*; 1 male, W Kazakhstan, Dzhanybek, 22.4.1957; 1 male, Dzhanybek, 29.8.1963, L. Riabova *leg.*; 1 male and 1 female, Kazakhstan, Uralsk reg., Ianvartzevo, 20.5.1949 and 21.5.1950, Romadina *leg.*; 1 male, Ianvartzevo, 30.5.1996, M. Danilevsky *leg.*; 1 male and 1 female, Uralsk reg., Bykovka, 31.5.1996, M. Danilevsky *leg.*; 1 male, Uralsk reg., Algabas near Sholkar Lake, 15.5.1993, M. Danilevsky *leg.*; 2 males and 2 females, Aktiubinsk reg., Kalinovka (about 130 km E. Aktiubinsk), 9.5.1992, M. Danilevsky *leg.* (author's collection).

Remark. - Both names *Cerambyx striatus* Goeze, 1777 and *Cerambyx fimbriatus* Gmelin, 1790 were introduced for « Der streisigte Holzbock » Lepechin, 1775, which was described from « Ural », that means South Urals. The original illustration of the taxon (Lepechin, 1775, pl. 10, fig. 8) clearly shows that it is just the same taxon described later as *D. rufifrons* Motsch. because of very narrow dorsal pale stripes; so the synonymization (Plavilstshikov, 1952 : 344, 356) of *D. striatum* with typical *D. glycyrrhizae* is impossible. Moreover, typical *D. glycyrrhizae* is absent in Ural district.

The populations from South Urals (Ural River Valley and Aktuibe region) are represented in collections by single specimens, because here the species is rather rare. The transitions to *D. g. inderiense* (southwards), *D. g. dubianskii* (eastwards) and *D. g. uvarovi* south-eastwards are not clear. All known specimens from South Urals (type locality) are more or less peculiar (small size, bicoloured 1st antennal joint, long thoracic spines), that could be the reason for the limitation of the area of the nominal form.

The female described as *D. uvarovi* m. *pseudouvarovi* Breuning, 1962 : 207 is attributed by me to this taxon because of its locality - « Uralsk ».

All three subspecies : *D. g. inderiense*, *D. g. dubianskii* and *D. g. uvarovi* are in general smaller than *D. g. striatum*, in all three subspecies autochromal females are more numerous than androchromal. Small average size is the main distinguishing character of *D. g. dubianskii*; humeral carinae and dorsal furrow are always obliterated near elytral base on a distant equal in length to the 4th antennal joint. *D. g. uvarovi* differs by extremely long thoracic spines. *D. inderiense* differs by bicoloured or black 1st antennal joint (very rarely totally red), usually wide white pronotal and dorsal elytral stripes, often black or darkened femora.

D. glycyrrhizae dubianskii Jakovlev, 1906 (Fig. 2)

Dorcadion dubianskii Jakovlev, 1906b : 278 (Kara-Tugai, Aktiubinsk reg.); Plavilstshikov, 1952 : 351-352, part.; Breuning, 1962 : 206, part.; Kostin, 1952 : 215; Lobanov & al., 1982 : 264.

Dorcadion glycyrrhizae dubianskii : Danilevsky, 1999 : 36,38-39.

Description.- Body length in males : 15.3-21 mm, width : 5-7.1 mm; body length in females : 15.5-20.1 mm, width : 5.7-9 mm.

Body small, black, or sometimes partly reddish (certain thorax areas, last abdominal segments); head usually black, or red, or red with black genae and vertex, or black with red frons and gular area, or black with red antennal tubercles; antennae black with usually red 1st or 1st and 2nd joints, 1st joint sometimes slightly darkened apically; in autochromal females with distinct fine pubescence; lateral thoracic spines usually short, in males the distance between spine apices usually less than maximal elytral width, or sometimes about equal to central thoracic longitudinal white line very narrow, only in females can be wider; elytra relatively wide, usually oval, evenly rounded near middle, or often more narrowed posteriorly; humeral white stripe usually narrow, moderately wide or very narrow, often with numerous black spots; external dorsal stripe usually very narrow, often in form of several

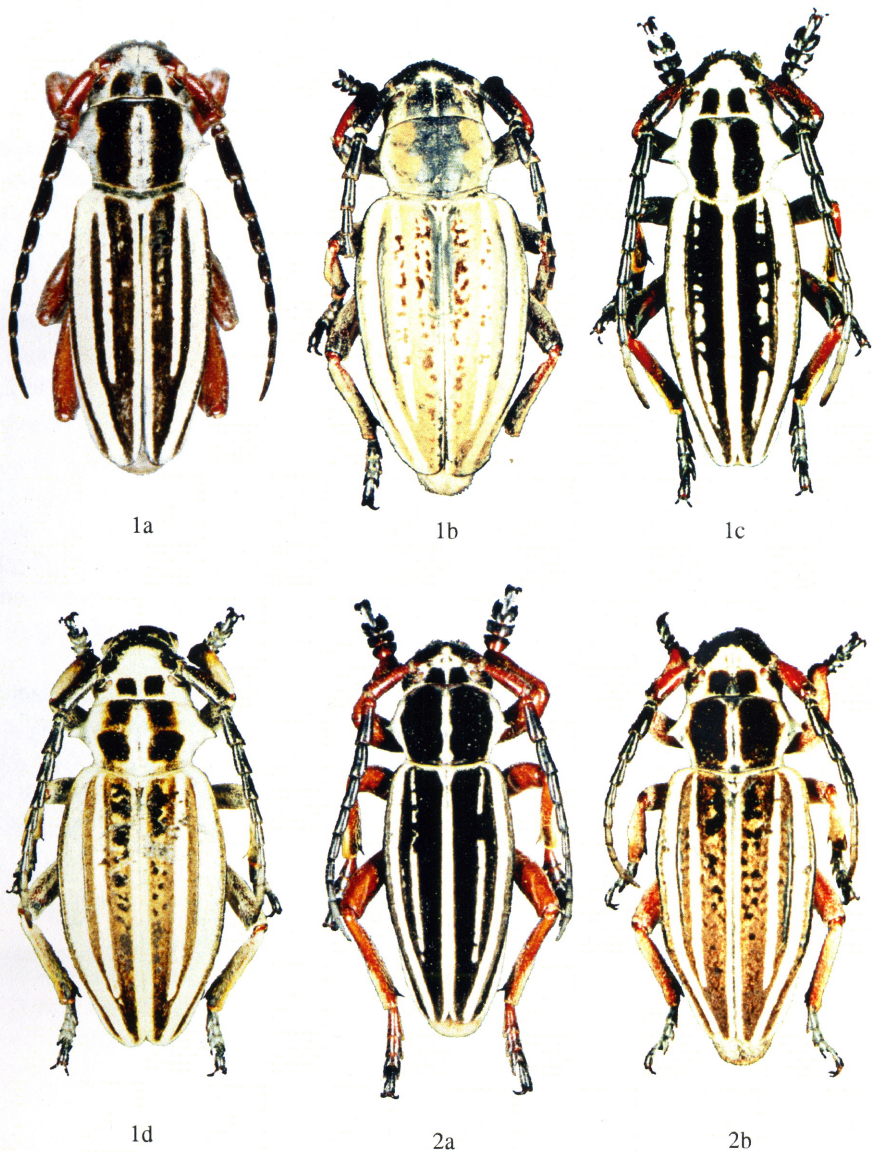


Fig. 1. *Dorcadion glycyrrhizae indertiensis* Suv. : a - male, syntype, Inder Lake; b - female, Inder Lake, 2-6-1901, D. Borodin leg.; c - male, Uil env. 9-5-1992, M. Danilevsky leg.; d - female, same locality. Fig. 2. *Dorcadion glycyrrhizae dubianskii* Jak. : a - male Aktiubinsk region, Karatogai, 300 m, 25, 26-05-1996, M. Danilevsky leg.; b - female, same locality.

small white spots and strokes; always narrower than interval between dorsal and humeral stripes (only in females sometimes wider); internal stripe absent; humeral furrow and dorsal carinae are obliterated near elytral base in the distance about equal in length to 4th antennal joint; legs red with black tarsi; females usually autochromal with brown ground pubescence, androchromal females are not known to me, but must exist.

Distribution. - Kazakhstan, Aktiubinsk region. Typical population situated in the hilly plane to the north from Karatogai (about 60 km northwards Aktiubinsk). I also attribute to the subspecies a population from Martuk (30 km north-westwards Karatogai) consisting of a little bigger specimens and population from near Alga (about 40 km southwards Aktiubinsk).

Materials. - 45 males and 5 females, Kazakhstan, Aktiubinsk region, Karatogai, 300 m, 25-26.5.1996, M. Danilevsky *leg.*; 8 males and 1 female, Martuk, 175 m, 10.5.1992, M. Danilevsky *leg.*; 2 males, Alga, 250 m, 11.5.1992, M. Danilevsky *leg.* (author's collection).

Remarks. - The subspecies differs from typical *D. g. striatum* first of all by in average smaller body size and absence (or rarity) of androchromal females, dorsal elytral furrows in *D. g. striatum* are usually distinct from about elytral base. The characters of neighbour populations of *D. g. striatum* from near Kalinovka and from Ural River Valley are not quite clear because of too small number of known specimens, so possibly some of these population could better be joined to *D. g. dubianskii* or separated as new subspecies.

D. g. uvarovi, distributed southwards, differs first of all by long thoracic spines, humeral elytral stripes are distinctly wider; females often unusually wide, androchromal females in typical population are represented by about 20% of known specimens.

***D. glycyrrhizae uvarovi* Suvorov, 1911**

Dorcadion uvarovi Suvorov, 1911b : 279, 282 (Temir, Aktiubinsk reg.); Plavilstshikov, 1952 : 349-351; Breuning, 1962 : 206-207, part.; Lobanov & al., 1982 : 264.

Dorcadion uvarovi ab. *indelibatatum* Plavilstshikov, 1952 : 350; Breuning, 1962 : 207 (as morpha).

Dorcadion uvarovi ab. *andropubens* Plavilstshikov, 1952 : 350; Breuning, 1962 : 206.

Dorcadion glycyrrhizae : Kostin, 1952 : 215, part.

Dorcadion glycyrrhizae uvarovi : Danilevsky, 1999 : 36, 38-39.

Description. - Body length in males : 15-21 mm, width : 5.5-7.1 mm; body length in females : 16-21.9 mm, width 6.8-10.2 mm.

Body small, black; head black with black frons (red frons only in unique male from « Emba distr. »); antennae black with usually red 1st or 1st and 2nd joints, 1st joint sometimes slightly darkened apically; in autochromal females with well developed fine pubescence; thorax black or black with red spine apices; lateral thoracic spines moderately long, in males the distance between spine apices usually less than maximal elytral width, or sometimes about equal to; central thoracic longitudinal white line narrow, only

in females can be wider; elytra relatively wide, usually oval, evenly rounded near middle, or often more narrowed posteriorly, in females often unusually wide, specially in population from near Zharly (up to 1.4 times longer than wide); humeral white stripe usually relatively wide (narrow only in unique male from « Emba distr. »), usually without (or sometimes with) small black spots; external dorsal stripe usually very narrow, very rarely complete (ab. *indelibatatum*), often in form of several small white spots and strokes, or nearly absent; always narrower than interval between dorsal and humeral stripes (only in females sometimes wider); internal stripe absent; humeral furrow and dorsal carinae are obliterated near elytral base in the distance about equal in length to 4th antennal joint; legs red with black tarsi, very rarely femora slightly darkened apically; females usually autochromal with brown ground or pale-brown pubescence, androchromal females (ab. *andropubens*) in typical populations are represented by about 20% of known specimens.

Distribution. - Kazakhstan, Aktiubinsk region. Morphologically typical populations are known along the big road from Pokrovka and Temir to Zharly. Kuituk-Kol Lake, recorded by N.N. Plavilstshikov (1958), is not known to me. Populations from the west and the east slopes of Mugodzhary Mountains (Emba district and Berchogur environs) could be only preliminary regarded as *D. g. uvarovi*, as too small number of specimens are known.

Materials. - 1 male and 1 female, Kazakhstan, Aktiubinsk region, Zharly, 50 m, 15.5.1987, Smorodinov *leg.*; 5 females, same locality, 12.5.1993, M. Danilevsky *leg.*; 3 males and 1 female, same locality, 10-12.5.1997, M. Smirnov *leg.*; 18 males and 9 females, Temir, 50 m, 12.5.1993, M. Danilevsky *leg.*; 2 males, Pokrovka, 300 m, 11.5.1993, M. Danilevsky *leg.*; 1 male, Emba distr., 6.1969; 1 male and 1 female, Kotrtas (near Berchogur), 275 m, 13.5.1992, M. Danilevsky *leg.*; 1 male and 1 female, same locality, 300 m, 6.5.1993, M. Danilevsky *leg.* (author's collection).

Remarks. - The taxon was described from « Uralsk-Gebiet in der Umgegend der Stadt Temir ». Now Temir is a small town in Aktiubinsk region.

The subspecies differs from *D. g. dubianskii*, distributed northwards by wide humeral white stripe and long thoracic spines; besides no specimens from typical populations are known with red frons. The subspecies does not seem to be close to *D. g. androsovi* (as believed N. N. Plavilstshikov, 1952), distributed southwards; *D. g. androsovi* has big body, much wider humeral stripe, wide pronotal and external elytral stripes - all characters differing « *D. g. androsovi*-group » from « *D. g. striatum*-group ».

(?) *D. glycyrrhizae iliense* Plavilstshikov, 1937, stat. n. (Fig. 3)

Dorcadion iliense Plavilstshikov, 1937 : 31-33 (« fl. Ili, Karatshekinkoje »); 1952 : 352-354; Breuning, 1962 : 209-210; Lobanov & al., 1982 : 264; Danilevsky, 1999 : 40 (as doubtful taxon).

Dorcadion acutispinum : Kostin, 1973 : 217, part.

Description. - Body length in males : 16-17 mm, width : 6 mm; body length in females : 19-21 mm, width : 7.8-8.5 mm.

Body small, black; head black or red; antennae black with red 1st and 2nd joints; lateral thoracic spines short, in male the distance between spine apices less than maximal elytral width; central thoracic longitudinal white line narrow; elytra relatively wide, usually oval, evenly rounded near middle, slightly more narrowed posteriorly; humeral white stripe very narrow, with a few (or nearly without) small black spots; external dorsal stripe very narrow; always narrower than interval between dorsal and humeral stripes (only in females sometimes wider); legs red with black tarsi; females androchromal.

Distribution. - Only type locality known : « fl. Ili, Karatshekinkoje » (Plavilstshikov, 1937), « steppe to the north from Sholak Mountains (Taldy-Kurgan region) » (Plavilstshikov, 1958) - it is undoubtedly small modern village Karachok to the north from Kapchagai water reserve on Ili River.

Materials. - 3 SYNTYPES, 1 male and 2 females (original type series consisted of 2 males and 3 females), « fl. Ili, Karatshekinkoje », 14-16.4.1930 (Zoological Museum, Moscow).

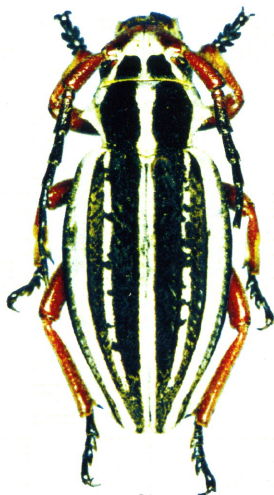
Remarks. - The existence of the subspecies is very doubtful. I am sure that the description of the taxon was connected with wrongly labeled materials (received by V. N. Lutchnik from unknown collector). All syntypes are about the same as small specimens of *D. g. striatum* and most probably were collected in upper level of Ural River Valley. In fact no distinguishing characters from *D. g. striatum* were mentioned in the original description or can be observed in the specimens. N.N. Plavilstshikov paid special attention to relatively big and long male prothorax, but such proportions are rather usual in small males of all subspecies of « *D. g. striatum*-group ».

The type locality is located for more than 1000 km from the nearest similar related population. All this vast area is roamed by different species and subspecies of « *D. pantherinum*-group » replacing here the numerous subspecies of *D. glycyrrhizae*. Two taxa of « *D. pantherinum*-group » (*D. pantherinum shamaevi* Danilevsky, 1995 and *D. absinthium* Plavilstshikov, 1937) occur in the nearest environs of Kapchagai water reserve, but still not in Karachok environs, because of hard clay soil of the locality.

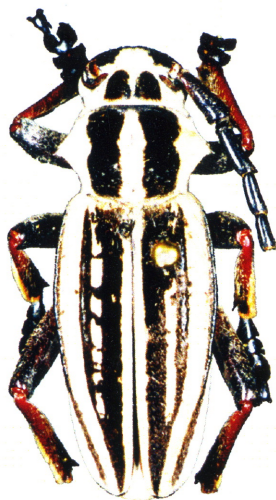
Karachok environs are well investigated by a lot of modern collectors (I was here looking for *Dorcadion* in good periods of four seasons), but nothing similar to *D. iliense* was found. Three taxa are known from the clay plane surrounding Karachok : *D. crassipes* Ballion, 1878, *D. kapchagaicus* Danilevsky, 1996 and *D. suvorovi karachokensis* Danilevsky, 1996.



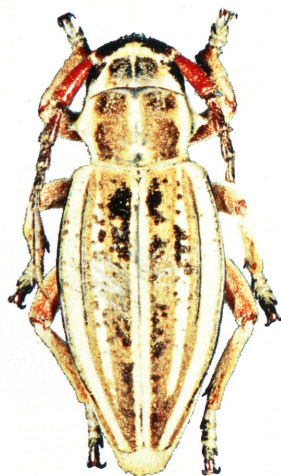
3a



3b



4a



4b



5



6a

Fig. 3 : *Dorcadion glycyrrhizae iliense* Plav., SYNTYPES : a - male ; b - female. Fig. 4 : *Dorcadion glycyrrhizae obtusipenne* Motsch. : a - male (lectotype) from Kzyl-Orda, 1859, M. Svertzov leg. ; b - female, Syr-Darya, 5-1996, Iablokov leg. Fig. 5. *Dorcadion glycyrrhizae fedorenkoi* ssp. n. : male, HOLOTYPE. Fig 6 : *Dorcadion glycyrrhizae nikirevi* ssp. n. : a - HOLOTYPE.

The synonymization of *D. iliense* with *D. acutispinum* Motschulsky, 1860 by I. A. Kostin was connected with the fact, that I. A. Kostin never saw the types of *D. iliense*, and nearby to Karachok *D. suvorovi konyrolenus* Danilevsky, 1996 occurs. It can be similar to *D. acutispinum* and is sometimes with red head.

D. glycyrrhizae androsovi Suvorov, 1909

Dorcadion androsovi Suvorov, 1909 : 93-95 (Kara-Chakat, Malye Barsuki); 1911b : 282; Plavilstshikov, 1937 : 32; 1958 : 347-349, part.; Breuning, 1962 : 207-208, part.; Lobanov & al., 1982 : 264.

Dorcadion androsovi var. *barsukorum* Suvorov, 1909 : 95; Plavilstshikov, 1958 : 347-349 (as aberratio); Breuning, 1962 : 208 (as morpho).

Dorcadion androsovi var. *rufiscapus* Suvorov, 1909 : 95; Plavilstshikov, 1958 : 349; Breuning, 1962 : 208 (as morpho.).

Dorcadion androsovi m. *dorsointactum* Breuning S., 1947 : 165 (« Tschelkar »); Breuning S., 1962 : 208; Plavilstshikov, 1958 : 349 (as aberratio).

Dorcadion glycyrrhizae : Kostin, 1973 : 217, part.

Dorcadion glycyrrhizae androsovi : Danilevsky, 1999 : 36, 38-39, part.

Description. - Body length in males : 17.5-26 mm, width : 6.2-8.8 mm; body length in females : 18.3-27 mm, width : 7.3-10.5 mm.

Body big (the subspecies includes the biggest known specimens in the species, which are known from near type locality). black; head black; antennae black with bicoloured basal joint, 1st joint usually red with black apex, very rarely totally black, and nearly never totally red; lateral thoracic spines usually very long, more or less curved backwards, the distance between spines apices in males much more than maximal clytral width; central thoracic longitudinal line wide; elytra moderately wide, slightly narrowed anteriorly, in males evenly widened near middle; elytral base often with narrow area of white pubescence; humeral white stripe very wide, never interrupted, with or without black spots; external dorsal stripe well developed or nearly absent, wide, about as wide as interval between dorsal and humeral stripes or wider, continuous (ab. *dorsointactum*) or many times interrupted, sometimes in form of several spots; internal stripes absent, or present in form of several spots fused with sutural stripe (ab. *barsukorum*), or in females as separate short row of small irregular spots; legs red with black tarsi and femora apices, sometimes tibiae also with black apices; females usually androchromal, very rarely autochromal - ab. *fuscopubens* (I've studied several hundreds of females from different localities and autochromal females are known to me only from near Irgiz).

Distribution. - Kazakhstan, Malye Barsuki Sands, Bolshie Barsuki and Priaral-Karakumy with surrounding sand landscapes to the north and north-east from Aral Sea, Turgai River Valley. Known localities are: Chelkar (Bolshie Barsuki), Irgiz (about 150 km north-eastwards Chelkar), Chagar, Karachakat (Malye Barsuki), Chokusu (about 20 km south-eastwards Karachakat), Saksaulsk, Kulandy (Tshchebas Bai), Turgai environs, Taush and Sary-Kopa Lake environs (about 50 km north-eastwards Turgai). The taxon inhabits sandy dunes.

Materials. - 68 males and 36 females, Kazakhstan, Aktiubinsk reg., Malye Barsuki, Karachakat, 150 m, 5.5.1993, M. Danilevsky *leg.*; 15 males and 7 females, Chokusu, 4-12.5.1972, M. Danilevsky *leg.*; 1 male, same locality, 200 m, 15.5.1992, M. Danilevsky *leg.*; 86 males and 51 females, Chagar, 100 m, 5.5.1993, M. Danilevsky *leg.*; 46 males and 18 females, Bolshie Barsuki, 200 m, 6.5.1993, M. Danilevsky *leg.*; 1 male, same locality, 2.5.1979; 24 males and 4 females, Irgiz, 200 m, 18.5.1992, M. Danilevsky *leg.*; 1 male and 1 female, Kzyl-Orda reg., Saksaulsk, 50 m, 3.5.1993, M. Danilevsky *leg.*; 1 female, Kulandy, Tshchebas Bai, 50 m, 22.4.1978, G. Nikolaev *leg.*; 1 male and 1 female, Aral Sea; 1 female, Priaral Karakumy, 10.5.1969; 1 male and 2 females, Kustanai reg, Turgai, 100 m, 17.5.1992, M. Danilevsky *leg.*, 1 male, Taush, 100 m, 2-4.5.1974, A. Grazhdankin *leg.* (author's collection); 2 males, Turgai distr., Sary-Kopa Lake, 28.4.1898, Sushkin *leg.* (Zoological Institute, S.-Petersburg).

Remarks. - The subspecies is characterized by usual high degree of the development of white elytral and thoracic design: wide pronotal and external elytral stripes, very wide humeral stripe; bicoloured femora and 1st antennal joint, very long thoracic spines.

Populations from Aral Sea coast consist of on average smaller specimens, with straighter thoracic spines and could be regarded as separate subspecies.

***D. glycyrrhizae obtusipenne* Motschulski, 1860 (Fig. 4)**

D. obtusipenne Motschulski, 1860b : 538 (« Fort Perofski », now Kzyl-Orda); Kraatz, 1882:

Ganglbauer, 1884 : 478; Jakovlev, 1906a : 46, part.; Danilevsky, 1992 : 95, part.

Dorcadion androsovi : Plavilstshikov, 1958 : 347-349, part.

Dorcadion glycyrrhizae obtusipenne : Danilevsky, 1999 : 36.38-39.

Description. - Body length in male : 19.1-21.5 mm, width : 6.5-7.8 mm; body length in female : 20.3 mm, width : 7.8 mm.

Body of moderate size, black; head black; antennae black with red, or bicoloured, or nearly black basal joint (in lectotype basal joint black with dark-red base); lateral thoracic spines moderately or rather long, slightly curved backwards, the distance between spines apices in male more or less than maximal elytral width; central thoracic longitudinal line wide; elytra moderately wide, slightly narrowed anteriorly, in males evenly widened near middle; humeral white stripe very wide, not interrupted, with a few dark spots; external dorsal stripe wide, wider or about as wide as interval between dorsal and humeral stripes, many times interrupted; internal stripes absent, or present in form of several spots fused with suture stripe; legs red with black tarsi, or femora apices also black; female autochromal with pale brown ground pubescence.

Distribution. - Kazakhstan, Kzyl-Orda environs. The taxon must be connected with sandy dunes.

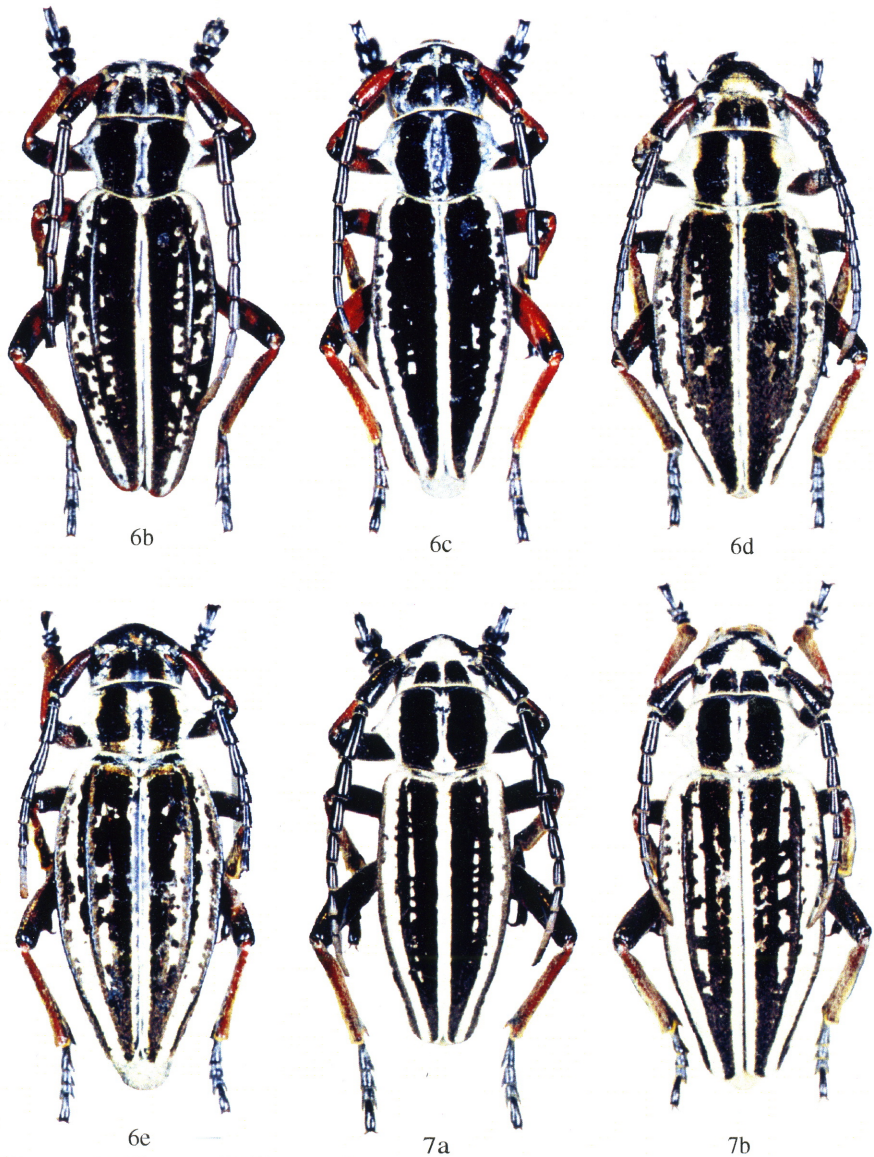


Fig 6 : *Dorcadion glycyrrhizae nikireevi* ssp. n. : b & c - PARATYPES, Kustanai, 10 to 15-5-1938, Stepanov leg. d & e, females PARATYPES with same datas. Fig. 7. *Dorcadion glycyrrhizae tobolense* ssp. n. : a - male HOLOTYPE, Kazakhstan, Kustanai region, Adaevka environs, 250 m, 17-5-1993, M. Danilevsky leg.; b - female paratype from same locality.

Materials. - LECTOTYPE (Fig. 4a), present designation, male, with 3 labels : 1st - « Motsch., B.S.-P., 1860, N 65 » (it means : « Bull. S. Petersburg, 1860 » and the number of the description in the article); 2nd - « Fort Perofsky, Sewertzof »; 3^d - (in Russian) « ist, look box 582 » - the specimen was collected by M. Severtzev in 1859 (Zoological Institute, S. Petersburg); 1 male, Syr-Darya region, Perovsk, 6.6.1905, Iu. Bekman *leg.*; 1 male, Syr-Daria (Zoological Institute, S. Petersburg); 1 female, Syr-Darya, desert, 5.1966, Iablokov *leg.* (author's collection).

Remarks. - The original description was based on several species. One from « Fort Perofski » or Perovsk (now Kzyl-Orda) and other from « la Songarie ». The latter part of the type series (unknown to me) was used by N. N. Plavilstshikov (1932) for the application of the name « *obtusipenne* » to the species described later as *D. crassipes* Ballion, 1878.

I've designated as lectotype the specimen from Kzyl-Orda, because this locality was precisely marked in the original description; « la Songarie » is too uncertain. But the main reason - *D. crassipes* does not fit to the original description of *D. obtusipenne* : « C'est une espèce très voisine du *Dorc. Glycyrrhizae*, de la même taille et avec les mêmes couleurs, ..., à épines latérales moins aigües, ... ». In *D. crassipes* thoracic spines always absent.

In 1991, I studied two syntypes (males) from « Fort Perofski » in the collection of Moscow Zoological Museum (Danilevsky, 1992), but now both specimens were not found. As I remember these males were very similar to the lectotype.

Many modern authors (Plavilstshikov, 1958; Breuning, 1962; Lobanov, & al., 1982), following N. N. Plavilstshikov (1932), used name « *obtusipenne* » in wrong sense for *D. (Compsodorcadion) crassipes* Ballion, 1878 (Danilevsky, 1992 : 95).

I do not know the exact location of the population near Kzyl-Orda. The close east environs are occupied by *D. pantherinum sabulosum* Danilevsky, 1995, which hardly can be sympatric with *D. glycyrrhizae*.

***D. glycyrrhizae fedorenkoi*, ssp. n. (Fig. 5)**

Description. - Body length : 22.5 mm, width : 8.2 mm.

Females unknown. Male. Body big, black; head black with black frons; antennae black with nearly black 1st joint, slightly reddish basally; lateral thoracic spines moderately long, the distance between spine apices a little less than maximal elytral width; central thoracic longitudinal white line wide; elytra relatively wide, oval, evenly rounded near middle, slightly more narrowed posteriorly; elytral base without area of white pubescence; humeral white stripe relatively wide; external dorsal stripe usually also wide, about as wide as interval between dorsal and humeral stripes, with several black spots and long interruptions near humeri; humeral furrow and dorsal carinae are not obliterated near elytral base; legs red with black tarsi and black femora apices.

Distribution. - Kazakhstan, Aktiubinsk region, 8 km to the south from Emba-City.

Materials. - HOLOTYPE, male, Aktiubinsk region, 8 km S. Emba, 26.5.1982, N. Fedorenko *leg.* (author's collection).

Remarks. - The area of the taxon is very close to the area of *D. g. uvarovi*, but it is close to *D. g. androsovi* because of wide white stripes, big body size, dark antennae and femora. *D. g. fedorenkoi* differs from *D. g. androsovi*, distributed far south-eastwards from Emba (about 160 km) by a little narrower humeral elytral stripe, a little shorter thoracic spines, darker 1st antennal joint absence of white pubescence on elytral base and I suppose that females must be mostly autochromal.

D. glycyrrhizae dostojewskii Semenov, 1899

Dorcadion glycyrrhizae dostojewskii Semenov, 1899b : 655 (Mangyshlak Peninsula); Plavilstshikov, 1927 : 49-50.

Dorcadion glycyrrhizae dostojewskii : Jakovlev, 1906a : 36.

Dorcadion glycyrrhizae var. *dostojewskii* : Jakovlev, 1906a : 45.

Dorcadion glycyrrhizae dostojewskii : Suvorov, 1911b : 281.

Dorcadion dostojewskii : Plavilstshikov, 1958 : 346-347; Lobanov & al., 1982 : 264.

Dorcadion dostojewskii : Breuning, 1962 : 205.

Dorcadion glycyrrhizae : Kostin, 1973 : 215, part.

Dorcadion glycyrrhizae dostojewskii : Danilevsky, 1999 : 36, 38-39.

Description. - Body length in males : 19.2-22 mm, width : 6.7-7.8 mm; body length in females : 21.8-23.6 mm, width : 9-9.1 mm.

Body big, black, sometimes abdomen partly reddish, often thoracic spines with red apices; head black; antennae black with red 1st or 1st and 2nd joints, 1st joint sometimes with black apex; lateral thoracic spines very long, slightly curved backwards, the distance between spines apices in males much more than maximal elytral width; central thoracic longitudinal line very wide; elytra moderately wide, slightly narrowed anteriorly, in males evenly rounded near middle or sometimes nearly parallelsided; elytral base with wide or narrow, but always distinct white pubescence; humeral white stripe very wide, never interrupted, in males always without black spots, but in females a few spots can be present; external dorsal stripe wide, usually wider than interval between dorsal and humeral stripes, many times interrupted, often in form of several white spots and strokes, sometimes nearly absent or in contrary nearly complete; internal stripes absent or very rare (one female) present in form of short wide basal stroke; legs red with black tarsi, or femora apices slightly darkened; females always androchromal.

Distribution. - Kazakhstan, Mangyshlak Peninsula (Shetpe, Tauchik Mt., Kara-Manas, Kara-Manata, Dzharmysh). The taxon must be connected with sandy dunes.

Materials. - 1 male, Mangyshlak, Kara-Manata, 3.5.1961, Malchevsky *leg.*; 1 female, Mangyshlak, Kara-Manas, 30.4.1961, Serkova *leg.*; 1 male and 1 female, Mangyshlak, Shetpe, 22.4.1967, G. Nikolaev *leg.*; 1 male, Mangyshlak,

13.5., G. Nikolaev *leg.*; 1 male, Mangyshlak, Tauchik Mt., 8.5.1985, V. Shaposhnikov *leg.* (author's collection); 1 male, eastwards Mangyshlak, Dzharmysh environs, 5-7.5.1906, Dubiansky *leg.* (Zoological Institute, S. Petersburg).

Remarks. - The subspecies is very close to *D. g. androsovi* and specially to the populations from Aral Sea coast; differs by extremely wide thoracic and elytral white stripes, usual absence of black spots on humeral stripe, very long and relatively straight thoracic spines, usually totally red femora and 1st antennal joint.

***D. glycyrrhizae nikireevi*, ssp. n. (Fig. 6)**

Dorcadion androsovi m. *discoalbopunctatum* Breuning, 1947 : 165 (« Kustanai »); 1962 : 208.

Dorcadion androsovi m. *fuscopubens* Breuning E., 1947 : 165 (« Kustanai »); Breuning S., 1962 : 208; Plavilstshikov, 1958 : 349.

Dorcadion androsovi : Plavilstshikov, 1958 : 347-349, part.; Breuning, 1962 : 207-208, part.

Dorcadion androsovi ab. *praedivinum* Plavilstshikov, 1958 : 348; Breuning, 1962 : 208 (as morpha).

Description - Body length in males : 16.5-21.1 mm, width : 5.6-7.5 mm; body length in females : 17-21.5 mm, width : 6.5-8.4 mm.

Body of middle size, black, sometimes thoracic spines with red apices; head black; antennae black with usually bicoloured 1st joint, very rare 1st joint totally red; lateral thoracic spines moderately long, slightly curved backwards, or very short, nearly absent; the distance between spine apices in males very rare more than maximal elytral width, usually less or much less; central thoracic longitudinal line moderately wide; elytra moderately wide, slightly narrowed anteriorly, evenly rounded near middle; white basal elytral pubescence can be sometimes developed only in females; humeral white stripe very wide, usually with numerous black spots (Fig. 6a), often interrupted, often consists of several white spots (Fig. 6b) or nearly absent; external dorsal stripe also wide, about as wide as interval between dorsal and humeral stripes (Fig. 6a), usually strongly reduced, in form of several spots and strokes (Fig. 6b), sometimes nearly (Fig. 6c) or totally absent (ab. *praedivinum*); internal stripes absent or very rarely present in form of several small spots (Fig. 6e); legs red with black tarsi and black femora apices, very rare femora totally red; females (Figs. 6d-e) always androchromal.

Distribution. - Kazakhstan, Kustanai environs - the northernmost population of the species. The taxon can not be connected with sandy dunes, because of the absence of such landscapes in the region.

Materials. - HOLOTYPE, male, « Kustanai, 10-15.5.1938, N.V. Stepanov *leg.* »; PARATYPES : 25 males and 16 females with same label (author's collection); 1 female, Kustanai, 4.5.1915, S. Karavaev *leg.*; 1 female, Kustanai, 15.4.1917; 1 female, Kustanai env., 14.6.1923, V.S. Leontiev *leg.*; 1 female, Kustanai distr., Polovnikovskii, 23.6.1923; 7 males and 11 females, Kustanai, 27.4.1938, N.V. Stepanov *leg.* (Zoological Institute, S. Petersburg).

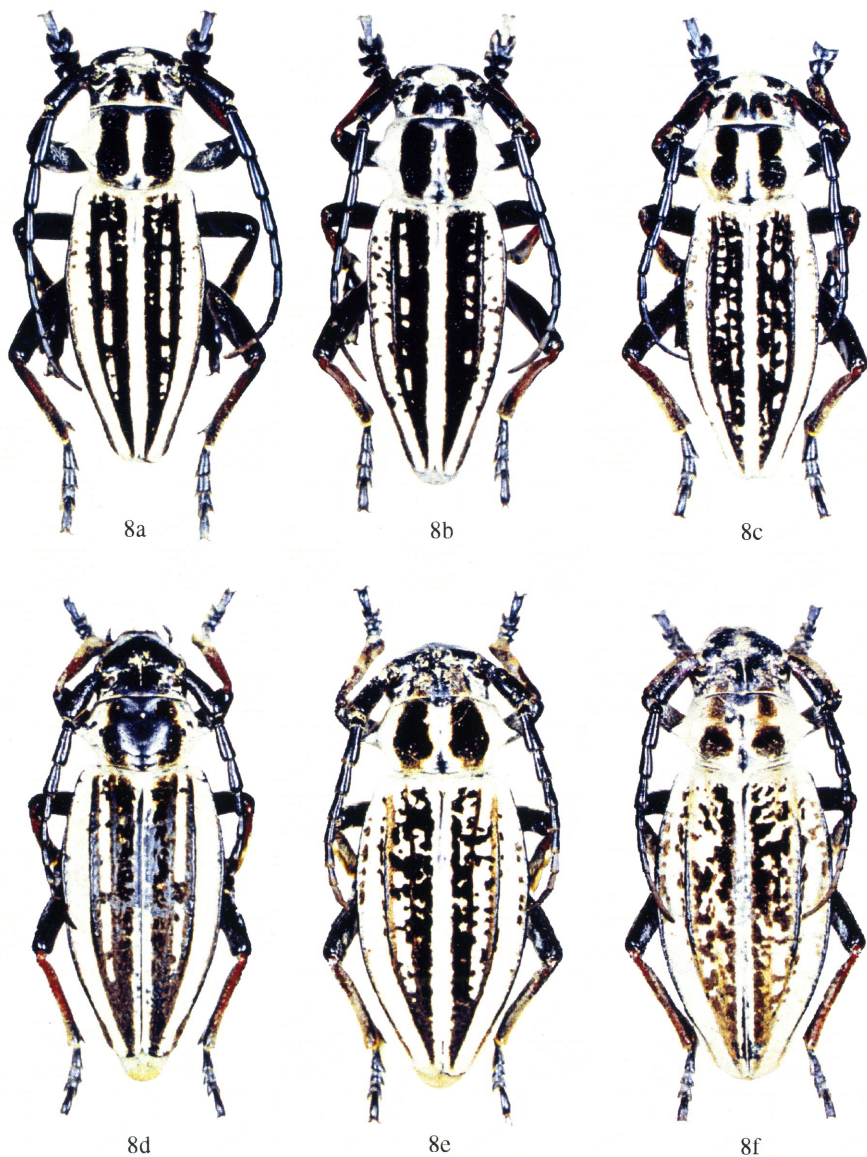


Fig. 8. *Dorcadion glycyrrhizae galinae* ssp. n. : a - male, HOLOTYPE : b & c males PARATYPES, Zharkol Lake, about 30 km north-eastwards Arkalyk, 360 m, 24-6-1999, M. Danilevsky leg. d, e & f - females PARATYPES from same locality, G. Danilevskaia & M. Danilevsky leg.

Remarks. - The taxon is close to *D. g. androsovi* and was mixed up with it by several authors. It reminds the neighbour subspecies *D. g. turgaicum* by the reduction of white pubescence, but on average smaller, not so black and so wide. It differs from *D. g. androsovi* by narrower humeral stripe with usually high degree of reduction, by shorter thoracic spines, usually more darkened 1st antennal joint and femora apices.

I attribute *D. androsovi* ab. *praedivinatum* Plav. to the new subspecies, because total reduction of external elytral white stripe is unknown in *D. g. androsovi*, but occurs in Kustanai population, which was included by N. N. Plavilstshikov in his *D. androsovi*.

Derivatio nominis - I feel high honour to dedicate this taxon to the great Russian painter Stanislav Mikhailovitch Nikireev (Podolsk, Moscow region), who provided me with a large series of specimens from his own collection.

***D. glycyrrhizae turgaicum* Suvorov, 1915, stat. n.**

Compsodorcadion turgaicum Suvorov, 1915 : 121 (« Kalmak »).

Dorcadion turgaicum : Plavilstshikov, 1958 : 342-344; Breuning, 1962 : 202; Lobanov & al., 1982 : 264; Danilevsky, 1999 : 36, 38-39.

Dorcadion cephalotes var. *turgaicum* : Plavilstshikov, 1927 : 50, part.; 1929 : 212-213, part.

Compsodorcadion akmolicum Suvorov, 1915 : 121 (« Ulu-Kul Lake »).

Dorcadion cephalotes var. *akmolicum* : Plavilstshikov, 1927 : 49, part.

Dorcadion akmolicum : Plavilstshikov, 1929 : 212-213, part.; 1932 : 182-183, part.

Dorcadion turgaicum ab. *akmolicum* : Plavilstshikov, 1958 : 342-344; Breuning, 1962 : 202 (as morpha).

Dorcadion cephalotes : Kostin, 1973 : 214, part.

Description. - Body length in males : 18.9-24.5 mm, width : 6.9-8.4 mm; body length in females : 20.7-25.7 mm, width : 8.6-10.5 mm.

Body big, black; head black; antennae black with usually bicoloured 1st joint: dark-red with black apex, sometimes totally black; lateral thoracic spines long or very long, curved backwards; the distance between spine apices in males wider than (or about as wide as) maximal elytral width; central thoracic longitudinal line moderately wide; elytra very wide, slightly narrowed anteriorly, often strongly widened near middle in males; white basal elytral pubescence usually developed in males and in females; humeral white stripe very wide, nearly always with numerous black spots, often interrupted, often with several white spots or nearly absent; external dorsal stripe also wide, wider than interval between dorsal and humeral stripes, usually strongly reduced, in form of several spots and strokes, sometime nearly absent or very rarely totally absent; internal stripes absent or very rarely present in form of several small spots; holotype (male) with unique elytral design : complete humeral stripe without black spots and totally absent dorsal stripes; legs dark-red with black tarsi and black femora apices, sometimes tibiae apices slightly darkened; females always androchromal.

Distribution. - Kazakhstan : South-West of Kokchetav region, Kalmak (It must be Kalmak-Lake - about 100 km north-eastwards Esil) and Ulukul-Lake - about 125 km northwards Esil; West of Astana (earlier Akmola or Akmolinsk) region, Esil and Ashchily Lake (I do not know Ashchily Lake, but it must be situated near Pokrovka about 25 km northwards Atbasar not far from Ashchily River).

The taxon seems to be not connected with sandy soils.

Materials. - 23 males and 11 females, Kazakhstan, Astana region, Esil environs, 300 m, 18.5.1992, M. Danilevsky *leg.* (author's collection); 1 male, « Ashchily Lake of Pokr. distr. [volost], Akmolinsk region, 21.5.1899, Balykleisky *leg.* »; 1 female, « Centr. Kazakhstan, West. Sary-Arka [Sary-Arka is the name of a vast geographical area including whole Karaganda region and most parts of Astana and Dzhezkazgan regions], 25.5.1954, L. Serkova *leg.* » (Zoological Institute, S. Petersburg).

Remarks. - The taxon is characterized by very wide body, high degree of reduction of white elytral design, widely darkened femora apices and 1st antennal joint, long thoracic spines.

The taxon was often compared (or mixed) with *D. cephalotes* Jakovlev, 1890, with which it is not connected. *D. cephalotes* belongs to another subgenus: *Compsodorcadion*. All *Compsodorcadion* always with totally black femora and 1st antennal joint, never with long thoracic spines; besides *D. cephalotes* usually (but not always) with narrow thoracic stripe and narrower humeral stripe, with very rough sculpture of humeral carinae, with more or less autochromal females.

D. glycyrrhizae tobolense ssp. n. (Fig. 7)

Description - Body length in males : 20-22 mm, width : 6.1-6.9 mm; body length in females : 21.2-23.3 mm, width : 7.9-8.5 mm.

Body big, black; head black; antennae black with black 1st joint, very rarely slightly reddish basally; lateral thoracic spines long or very long, curved backwards; the distance between spine apices in males wider than maximal elytral width; central thoracic longitudinal line moderately wide or sometimes narrow; elytra moderately wide, slightly narrowed anteriorly, often a little widened near middle in males; white basal elytral pubescence usually developed in males and in females; humeral white stripe wide, never strongly reduced, nearly always with several black spots, very rarely interrupted; external dorsal stripe relatively narrow, narrower than (or about as wide as) interval between dorsal and humeral stripes, usually strongly reduced, in form of several spots and strokes, sometime nearly absent; internal stripes absent; legs dark-red with black tarsi, nearly black femora with dark-red bases and black tibiae apices, hind tibiae often nearly totally black with dark red central portion; females always androchromal.

Distribution. - Kazakhstan, Kustanai region, Adaevka environs (about 200 km south-westwards Kustanai near Tobol River source).

Materials. - HOLOTYPE, male, Kazakhstan, Kustanai region, Adaevka environs, 250 m, 17.5.1993, M. Danilevsky leg.; PARATYPES : 14 males and 5 females from same locality (author's collection).

Remarks. - The taxon is close to *D. g. turgaicum* (distributed to about 300 km eastwards), differs by narrower body, much darker legs, black 1st antennal joint, narrow white thoracic and external humeral stripes, small reduction of humeral stripe.

It differs from *D. g. nikireevi* by big body, much darker legs, black 1st antennal joint, narrow white thoracic and external humeral stripes, small reduction of humeral stripe, white pubescence of elytral bases.

D. glycyrrhizae galinae ssp. n. (Fig. 8)

Description. - Body length in males : 18.4-23 mm, width : 6.2-7.3 mm; body length in females : 21.6-25.3 mm, width : 8.1-9.7 mm.

Body usually big, black, head black; antennae black with black 1st joint, very rarely slightly reddish basally or half-red (only in specimens from near Arkalyk); lateral thoracic spines long or very long, curved backwards; the distance between spine apices in males usually wider than maximal elytral width; central thoracic longitudinal line wide or sometimes in males moderately wide; lateral white pronotal areas often widened (Fig. 8c), specially in females; sometimes lateral white pronotal areas in females are fused with central stripe, so pronotum nearly totally white with small round paramedian dark areas (Fig. 8f); elytra moderately wide or narrow, slightly narrowed anteriorly, evenly widened near middle; white basal elytral pubescence usually rather wide in males and in females; humeral white stripe wide, never considerably reduced, never interrupted, always with several small black spots; external dorsal stripe relatively wide, usually about as wide as interval between dorsal and humeral stripes, more or less reduced, in form of several spots and strokes; internal stripes sometimes present in males and in females in form of long row (Figs. 8c,e) of white spots (the unique character in the species); sometimes in females white spots of external and internal elytral dorsal strips are partly fused, forming well developed irregular white design (Fig. 8f) like certain forms of *Dorcadion pantherinum* Jakovlev, 1900; legs dark-red with black tarsi, nearly black femora with dark-red bases and black tibiae apices; specimens from near Arkalyk with totally red tibiae and red femora, darkened apically; females (Figs. 8d-f) usually autochromal with ground pubescence from pale-brown to dark-brown.

Distribution. - The eastern most subspecies (not regarding very doubtful *D. g. iliense*). Kazakhstan : one population inhabits sandy bank of Zharkol Lake, about 30 km north-eastwards Arkalyk - the border line between Kustanai and Astana regions and another close population from near Arkalyk.

Materials. - HOLOTYPE, male, Kazakhstan, Zharkol Lake (north bank), about 30 km north-eastwards Arkalyk, 360 m, 24.6.1999, M. Danilevsky leg.; PARATYPES : 17 males and 11 females from same locality, same dates, G. Danilevskaia and M. Danilevsky leg. (author's collection); 1 male, Akmolins reg., Zharkol Lake (south env.), 21.5.1957, L. Arnoldi leg.; 2 males, same locality, 22.6.1960, L. Arnoldi leg.; 4 males and 2 females, Kustanai reg., Arkalyk env., 15.6.1960, L. Arnoldi leg. (Zoological Institute, S. Petersburg).

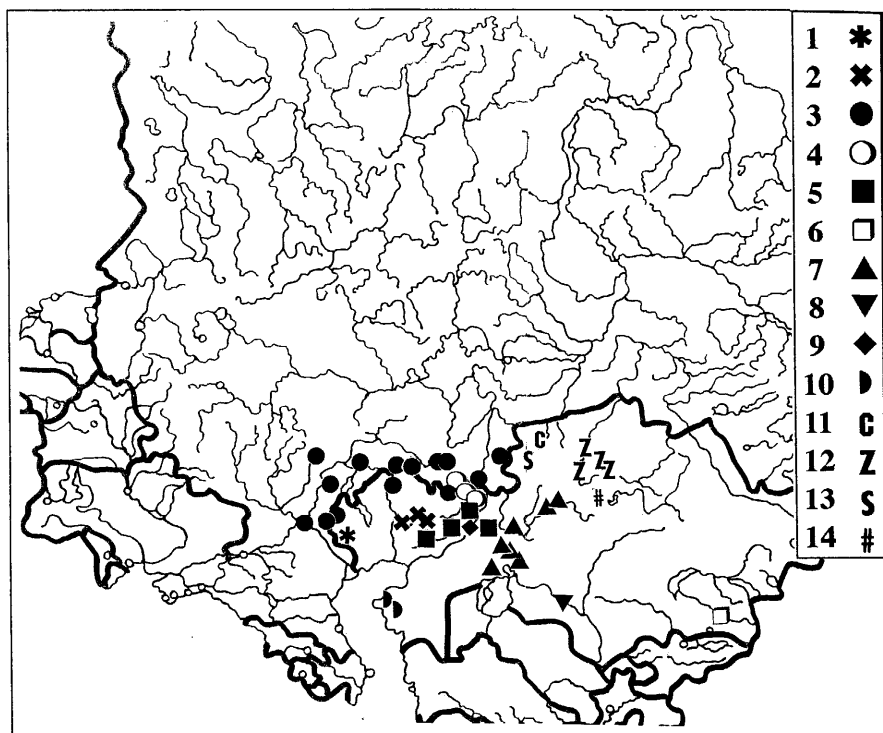


Fig. 9. Localities of subspecies of *D. glycyrrhizae*: 1 - *D. g. glycyrrhizae* (Urda); 2 - *D. g. inderiense* (inder, Miialy, Uil); 3 - *D. g. striatum* (Russia : Petrovsk, Pugachev, Krasnyi Kut, Volgograd, Elton, Rannee, Pokrovka, Orenburg, Orsk, Arkaim; Kazakhstan : Dzhanlybek, Ianvartsevo, Bykovka, Algabas, Kalinovka); 4 - *D. g. dubianskii* (Kara-Tugai, Martuk, Alga); 5 - *D. g. uvarovi* (Temir, Zharly, Emba, Berchogur); 6 - *D. g. iliense* (Karachok); 7 - *D. g. androsovi* (Karachakat, Chokusu, Saksaulsk, Kulandy, Irgiz, Turgai, Taush); 8 - *D. g. obtusipenne* (Kzyl - orda); 9 - *D. g. fedorenkoi* (8 km S. Emba); 10 - *D. g. dostojewskii* (Shetpe, Tauchik); 11 - *D. g. nikireevi* (Kustanai); 12 - *D. g. turgaicum* (Ulukul, Kalmak, Esil, Aschchily); 13 - *D. g. tobolense* (Adaevka); 14 - *D. g. galinae* (Zharkol).

Remarks. - The taxon is characterized by the most black body colour in the species and highest degree of the development of white pubescence. It is close to *D. g. turgaicum*, but differs by narrower body, much darker legs, usually black 1st antennal joint, strongly developed humeral elytral stripe, on average better developed external elytral stripe, occasionally presence of internal elytral stripe; usually autochromal females.

Derivatio nominis - I dedicate with gratitude this handsome taxon to my wife Galina Danilevskaja.

Specimens *incertae sedis*

I have studied several interesting specimens of *D. glycyrrhizae* from Zoological Institute of S. Petersburg with well preserved geographical labels, but I can not determine surely the locations of corresponding geographical names. A pair from « Dzhideli Sands », 7-12.5.1904, Dubiansky *leg.* Such toponym is rather common in Kazakhstan and known from several regions. The beetle belongs to « *D. g. androsovi*-group » of subspecies with numerous black spots on humeral white elytral stripe and with strongly reduced external dorsal elytral stripe in form of several small white spots. A female from « Kiiakty-Sor Lake, Turgai distr., 2.7.1928, N. Olenev & V. Popov *leg.* » If it is Kiiakty Lake southwards Tengiz Lake in Astana region then it is the easternmost locality of the species. The female is not close to *D. g. galinae* - which is the nearest subspecies to Tengiz Lake, but looks like a big female of *D. g. androsovi* with wide humeral stripes bearing several big black spots and wide external dorsal stripe consisting of numerous big white spots. If the locality is situated near Tengiz Lake, then the female belongs to a new subspecies, but if Kiiakty-Sor is the name of one of small lakes in Turgai River Valley, then it belongs to *D. g. androsovi*.

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